AMAZONIANA	VIII	4	555 – 576	Kiel, Oktober 1984

From cooperation between Max-Planck-Institute for Limnology, Working group "Tropical Ecology", Plön, West Germany, and Instituto Nacional de Pesquisas da Amazônia, Manaus – Amazonas, Brazil

Da cooperação entre Max-Planck-Institut für Limnologie, Arbeitsgruppe Tropenökologie, Plön, Alemanha Oc., e Instituto Nacional de Pesquisas da Amazônia, Manaus – Amazonas, Brasil

Further taxonomical studies of the Rotifera from Lago Camaleão, a Central Amazonian varzea lake (Ilha de Marchantaria, Rio Solimões, Amazonas Brazil)

by

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Abstract

175 species of rotifers were identified in samples collected in lago Camaleão, an Amazonian varzea lake. 24 species which had previously been found in the lake (KOSTE & ROBERTSON 1983) did not re-occur, but were "replaced" by 30 others. Among these, new records for the Amazon region include: *Atrochus tentaculatus* WIERZEJSKI, 1893, *Brachionus bidentatus inermis* ANDERSON, 1899, *Cephalodella catellina catellina* (O. F. MÜLLER 1786), *Eosphora anthadis* HARRING & MYERS, 1922 and *Monommata* cf. *actices* MYERS, 1930. One new species is described, *Cephalodella friebei*, and the present taxonomic status of *Filinia saltator* (GOSSE 1886) and *Macrochaetus sericus* (THORPE 1893) is discussed.

Keywords: **Rotifers, Amazonian varzea lake, taxonomical study, new records.**

0065-6755 / 1984 / 555 / © MPI für Limnologie, AG Tropenökologie, Plön; INPA, Manaus

Contents

1. Introduction

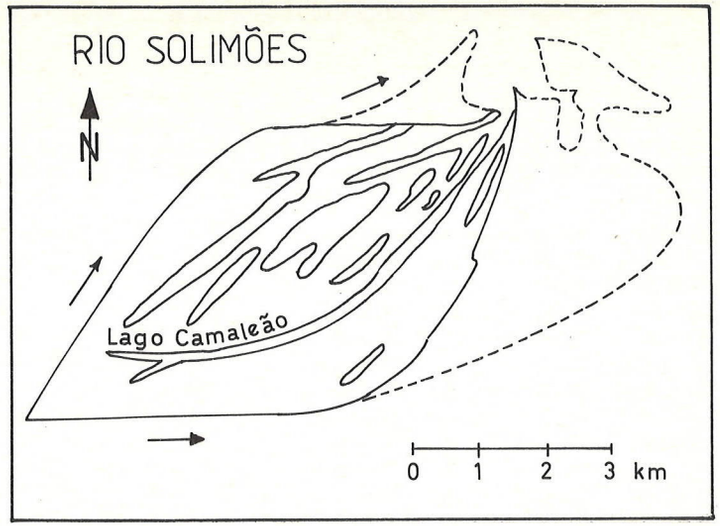
In continuation of the study of the rotifer taxocenosis in a varzea lake subjected to expressive fluctuations in water level, eight series of plankton samples were collected in late 1981 and 1982. The qualitative and semi-quantitative analysis of these samples are presented in this paper. The results of the preliminary survey can be found in KOSTE & ROBERTSON (1983).

2. Study area

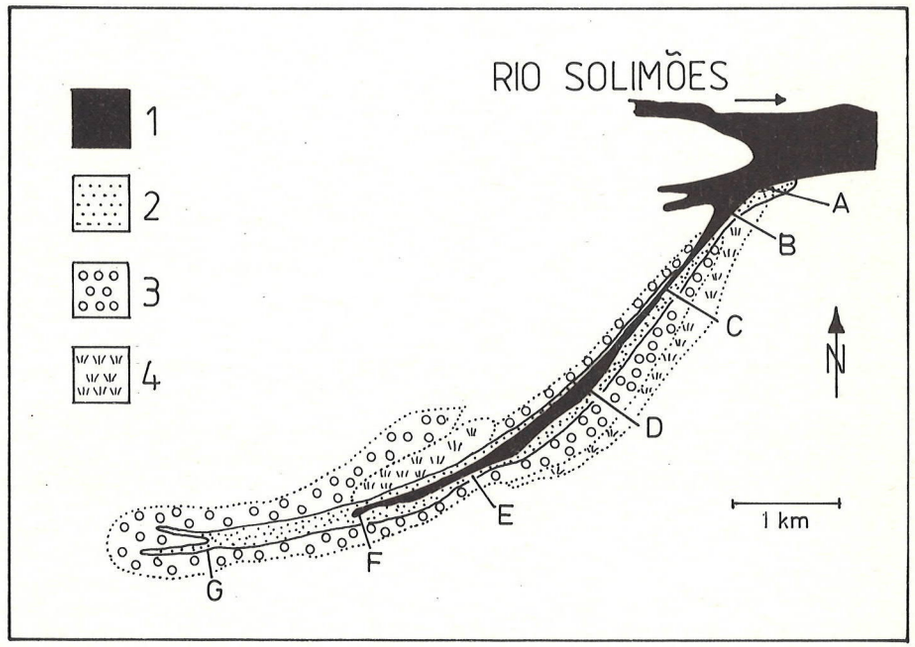
Descriptions of the study area can be found in FURCH et al. (1983), IRION et al. (1983), JUNK et al. (1983), KLINGE et al. (1983) and KOSTE & ROBERTSON (1983). Nevertheless, for the sake of clarity a few points should be stressed.

Lago Camaleão is an elongated (6.5 km long), very narrow (300 - 500 m wide) lake situated on the Ilha de Marchantaria, an island of the Solimões/Amazonas River system located near Manaus (Map 1). The lake is subjected to significant fluctuations in water level with the highest occurring between April and August and the lowest between October and December. In 1981 the difference between the highest and the lowest water level was 9.61 meters and in 1982, 11.7 meters.

During the dry season lago Camaleão basically dries up. Only a few small, very shallow pools remain. At this time the exposed lake basin is colonized by terrestrial and semi-aquatic vegetation. During the rising water period this vegetation is flooded, eventually dies, and on decomposing, causes strong oxygen depletion in the water column (JUNK et al. 1983). At the same time aquatic macrophytes propagate and cover the lake.



a



b

Map 1:
a) Ilha de Marchantaria and Lago Camaleão. **b)** Sampling stations (A - G) in Lago Camaleão.
1 – Water surface area (mid-water-level); 2 – aquatic grasses; 3 – forest; 4 – semiaquatic grasses.
(Modified from FURCH et al. (1983)).

3. Material, methods and abbreviations

In late 1981, September and December, and throughout 1982, or during a complete flood cycle, 31 plankton samples were collected. The sampling stations (A - G) are located in regular intervals from the mouth of lago Camaleão (Sta. A), inwards, to the west end of the lake (Sta. G) (Map. 1).

10 - 50 liters of water were collected, usually at 0.5 meter depth, with the aid of a hand pump. However, when organic detritus interferred with the pumping, we opted for horizontal tows. Dates and sampling station follow:

1)	03.09.81	Sta. A	0.5 m,	50 liters
2)	03.09.81	Sta. B	0.5 m,	50 liters
3)	03.09.81	Sta. D	0.5 m,	50 liters
4)	03.09.81	Sta. F	0.5 m,	50 liters
5)	03.12.81	Lago		20 liters
6)	03.12.81	Canal		10 liters
7)	03.02.82	Sta. B	0.5 m,	50 liters
8)	03.02.82	Sta. C	0.5 m,	50 liters
9)	03.02.82	Sta. D	0.5 m,	50 liters
10)	03.02.82	Sta. E	0.5 m,	50 liters
11)	03.02.82	Sta. G	0.5 m,	50 liters
12)	03.03.82	Sta. B	0.5 m,	50 liters
13)	03.03.82	Sta. D	0.5 m,	50 liters
14)	03.03.82	Sta. E	0.5 m,	50 liters
15)	03.03.82	Sta. F	0.5 m,	50 liters
16)	03.03.82	Sta. G	0.5 m,	50 liters
17)	05.05.82	Sta. E	0.5 m,	50 liters
18)	05.05.82	Sta. G	horizontal tow	
19)	02.06.82	Sta. B	0.0 m,	20 liters
20)	02.06.82	Sta. D	0.0 m,	20 liters
21)	02.06.82	Sta. F	0.0 m,	20 liters
22)	02.06.82	Sta. G	0.0 m,	20 liters
23)	22.06.82	Sta. B	0.0 m,	20 liters
24)	23.06.82	Sta. D	2.0 m,	20 liters
25)	24.06.82	Sta. E	0.0 m,	20 liters
26)	25.06.82	Sta. F	0.0 m,	20 liters
27)	04.08.82	Sta. B	0.0 m,	20 liters
28)	04.08.82	Sta. D	0.0 m,	20 liters
29)	04.08.82	Sta. G	0.0 m,	20 liters
30)	07.10.82	Sta. D	0.0 m,	25 liters
31)	07.10.82	Sta. F	horizontal tow	

All the samples were collected with a 55 μm plankton net and fixed immediatly with formalin: final concentration 6 %. Trophi analysis were executed with a solution of Kaliumhypochlorit (KClO). Abbreviations used in the species list are: 1 = single specimens, r = very rare animals (2 - 10 specimens), c = common (11 - 20 specimens), and ab = abundant (> 20 specimens).

4. List of rotifers from Lago Camaleão, Ilha de Marchantaria

(September, December, 1981, February, March, May, June, August, and October, 1982)

	1981		1982					
TAXON	IX	XII	II	III	V	VI	VIII	X
1. *Anuraeopsis fissa*	–	–	r	–	–	–	–	–
2. *A. navicula*	–	–	r	–	–	–	–	–
3. *Ascomorpha ecaudis*	–	–	–	–	–	–	c	–
4. *A. saltans*	–	–	–	–	–	c	–	–
5. *A. klementi*	–	–	–	–	–	c	–	–
6. *Aspelta aper*	–	–	–	–	–	–	r	–
7. *Asplanchna sieboldi*	–	–	–	–	–	c	–	–
8. *Atrochus tentaculatus*	–	1	–	–	–	–	–	–
9. Bdelloidea spec.	ab	ab	ab	c	ab	ab	ab	ab
10. *Beauchampia crucigera*	–	–	r	–	–	–	–	–
11. *Brachionus bidentatus bidentatus*	–	–	–	–	–	–	–	c
12. *B. bidentatus* f. *inermis*	–	ab	–	–	–	–	–	ab
13. *B. budapestinensis*	–	r	–	–	–	–	–	–
14. *B. calyciflorus amphiceros*	–	r	–	–	–	–	–	–
15. *B. calyciflorus spinosus*	r	c	–	–	–	–	–	–
16. *B. caudatus ahlstromi*	–	–	–	–	–	–	–	r
17. *B. caudatus austrogenitus*	–	–	–	–	–	–	–	ab
18. *B. caudatus caudatus*	–	–	–	–	–	ab	r	r
19. *B. caudatus majusculus*	–	ab	–	–	–	–	r	ab
20. *B. caudatus personatus*	–	r	–	–	–	–	–	–
21. *B. caudatus vulgatus*	–	ab	–	–	–	–	–	–
22. *B. dolabratus*	–	–	–	–	–	c	–	–
23. *B. falcatus*	–	–	–	–	–	ab	r	ab
24. *B. patulus macracanthus*	–	1	–	r	ab	1	r	r
25. *B. patulus patulus*	–	–	–	r	–	–	r	c
26. *B. quadridentatus ancylognathus*	–	r	–	–	–	–	–	ab
27. *B. quadr. melheni*	–	–	c	r	r	r	r	c
28. *B. quadr. minor*	–	c	–	–	–	–	–	ab
29. *B. quadr. mirabilis*	–	–	–	–	r	–	–	r
30. *B. quadr. quadridentatus*	–	1	–	–	–	–	r	c
31. *B. urceolaris amazonica*	r	–	–	r	–	r	–	–
32. *B. urceolaris urceolaris*	–	r	–	–	–	–	–	–
33. *B. voigti*	–	–	–	r	–	r	r	–
34. *B. zahniseri reductus*	–	–	–	–	c	c	–	–
35. *B. zahniseri gessneri*	–	–	–	–	1	ab	c	–
36. *Cephalodella* spec.	r	c	–	–	–	–	c	c
37. *C. catellina*	–	–	–	–	–	–		r
38. *C. forficula*	–	–	–	–	–	–	r	r
39. *C. friebei* nov. spec.	–	ab	–	–	–	–		
40. *C. gibba*	–	–	–	–	1	1	1	1
41. *C. paggia*	–	r	–	–	1	–	1	
42. *C. sterea*	–	–	–	–	–	–		1
43. *Collotheca ornata cornuta*	–	–	–	–	1	–	1	–
44. *C.* spec.	–	–	–	–	–	r	1	–

TAXON	1981 IX	1981 XII	1982 II	1982 III	1982 V	1982 VI	1982 VIII	1982 X
45. *Colurella uncinata*	–	–	–	–	–	–	–	1
46. *Conochilus dossuarius*	–	–	–	–	–	c	–	–
47. *C. natans*	r	–	–	–	–	c	–	c
48. *Dicranophorus caudatus braziliensis*	c	–	–	r	–	r	r	–
49. *D. claviger*	–	–	–	r	c	r	–	–
50. *D. epicharis*	–	–	–	–	r	1	1	–
51. *D. forcipatus*	–	–	–	–	–	1	r	–
52. *Dipleuchlanis propatula*	r	–	r	–	r	r	r	–
53. *Dissotrocha aculeata*	–	–	–	–	–	–	r	–
54. *D. macrostyla*	–	ab	r	r	–	–	r	–
55. *Eosphora anthadis*	–	–	–	–	r	–	–	c
56. *Epiphanes brachionus spinosus*	–	r	–	–	–	–	–	–
57. *E. clavulata*	r	–	c	–	ab	c	–	c
58. *E. macrourus*	–	–	–	–	r	–	–	c
59. *Euchlanis dilatata*	–	r	–	–	1	–	c	–
60. *Eu. incisa mucronata*	–	–	–	–	1	–	–	–
61. *Eu. meneta*	–	–	–	–	1	1	r	–
62. *Eu.* cf. *oropha*	–	r	–	–	–	–	r	–
63. *Filinia longiseta long.*	–	–	r	r	c	c	c	ab
64. *F. longiseta limnetica*	–	–	–	–	–	c	r	–
65. *F. saltator*	ab	r	ab	r	c	c	c	–
66. *F. opoliensis*	–	–	–	–	–	r	r	r
67. *F. pejleri*	–	–	–	–	r	c	r	r
68. *Floscularia decora*	–	–	–	–	–	–	1	–
69. *F. ringens*	–	–	–	–	–	–	c	–
70. *Gastropus hyptopus*	–	–	–	–	–	ab	–	–
71. *Hexarthra intermedia braziliensis*	–	–	–	–	–	c	–	–
72. *H. mira*	–	–	–	–	r	–	–	–
73. *Keratella americana* f. *pust*	–	–	–	r	c	c	c	–
74. *K. americana* f. *typica*	–	–	–	r	r	ab	ab	–
75. *K. cochlearis*	–	r	–	–	r	c	ab	–
76. *K. lenzi*	–	–	r	r	r	c	ab	–
77. *K. nhamunda*	–	–	–	r	–	–	c	–
78. *K. tropica*	–	–	–	r	c	ab	–	–
79. *Lecane aculeata*	–	–	–	–	r	–	–	–
80. *L. amazonica*	r	–	r	r	–	–	–	r
81. *L. bulla*	c	r	c	c	ab	r	c	c
82. *L. closterocerca amazonica*	–	–	–	–	1	1	–	r
83. *L. cornuta*	1	r	r	r	c	1	c	c
84. *L. curvicornis*	ab	–	c	c	r	c	c	r
85. *L. decipiens*	–	1	–	–	–	–	–	–
86. *L. doryssa*	–	–	r	–	–	–	–	–
87. *L. elegans*	–	–	r	–	1	–	–	–
88. *L. elsa*	1	–	–	–	–	–	–	–
89. *L. furcata*	–	–	–	–	1	–	–	1
90. *L. haliclysta*	c	–	r	–	–	–	1	r

TAXON	1981 IX	1981 XII	1982 II	1982 III	1982 V	1982 VI	1982 VIII	1982 X
91. *Lecane hamata*	r	–	r	r	1	–	–	r
92. *L. hornemanni*	–	–	–	r	–	–	–	–
93. *L. leontina*	r	r	–	r	c	r	r	r
94. *L. ludwigi ludwigi*	–	–	–	–	–	–	r	–
95. *L. ludwigi* f. *abrupta*	–	1	–	–	–	–	–	–
96. *L. ludwigi* f. *ercodes*	–	–	–	–	–	–	–	r
97. *L. luna*	–	–	r	–	r	1	r	r
98. *L. lunaris crenata*	–	–	r	–	–	–	–	–
99. *L. marchantaria*	–	–	r	–	–	–	–	–
100. *L. melini*	–	–	–	–	r	1	r	–
101. *L. monostyla*	1	–	–	–	–	–	–	–
102. *L. papuana*	c	ab	ab	c	c	r	r	–
103. *L. pyriformis*	–	1	–	–	–	–	–	–
104. *L. quadridentata*	r	–	r	–	r	1	r	–
105. *L. proiecta*	–	–	–	–	–	–	r	–
106. *L. rudescui*	–	–	–	–	–	–	–	r
107. *L. rhytida*	c	–	–	–	–	r	–	–
108. *L. stichaeoides*	–	–	r	–	–	–	–	–
109. *L. signifera ploenensis*	–	–	–	–	–	–	c	r
110. *L. ungulata*	–	–	r	–	r	r	r	–
111. *L. wulferti*	1	–	r	–	r	–	–	–
112. *Lepadella latusinus americana*	–	–	–	–	–	–	r	r
113. *L. donneri*	–	–	–	–	–	–	r	–
114. *L. ovalis*	–	–	–	–	r	–	r	–
115. *L. rhomboides*	c	c	r	r	r	r	r	c
116. *L. cyrtopus*	–	–	–	–	–	–	–	r
117. *Lepadella triba*	–	–	–	–	–	–	–	1
118. *L. triptera*	–	–	–	–	–	–	–	1
119. *L. benjamini braziliensis*	–	–	–	–	–	–	1	–
120. *L. patella*	–	r	–	–	–	–	1	–
121. *Limnias melicerta*	r	r	–	–	–	r	r	–
122. *L. ceratophylli*	r	–	–	–	–	–	c	–
123. *Macrochaetus collinsi*	–	–	–	–	–	1	–	–
124. *M. sericus*	–	–	–	–	c	r	r	–
125. *Manfredium eudactylotum*	r	–	r	r	r	r	–	–
126. *Monommata maculata*	–	–	–	–	1	–	r	r
127. *Monommata* cf. *actices*	–	–	–	–	–	–	1	1
128. *Mytilina acantophora*	1	–	c	r	–	–	–	–
129. *M. bisulcata*	–	–	r	r	1	–	–	–
130. *M. trigona*	c	–	r	r	r	–	–	–
131. *M. ventralis ventralis*	–	–	r	1	–	–	1	–
132. *M. ventralis macracantha*	–	–	–	r	–	–	r	–
133. *Notommata cerberus*	–	r	–	–	–	–	1	–
134. *N. copeus*	–	r	–	–	–	–	–	r
135. *N. glyphura*	–	–	–	–	–	r	1	r
136. *N.* spec.	–	–	–	–	–	r	c	r
137. *Philodina* cf. *megalotrocha*	–	–	–	–	–	r	r	r
138. *Platyias leloupi*	1	r	c	r	c	1	r	r
139. *P. quadricornis*	–	–	c	r	c	c	r	r
140. *P. quadridentatus brevispinus*	–	–	–	r	1	–	c	–

TAXON	1981 IX	1981 XII	1982 II	1982 III	1982 V	1982 VI	1982 VIII	1982 X
141. *Ploesoma lenticulare*	–	–	–	–	–	ab	–	–
142. *Polyarthra vulgaris*	c	r	r	–	c	c	ab	ab
143. *P. remata*	–	–	–	–	–	–	–	c
144. *Ptygura melicerta*	–	–	–	–	–	–	–	r
145. *P. tacita*	–	–	r	–	–	–	–	–
146. *P.* spec.	–	–	r	–	–	–	–	–
147. *Resticula melandocus*	–	r	–	–	–	–	–	–
148. *Rotaria macrura*	1	–	–	–	–	–	–	–
149. *R. neptunia*	c	c	r	r	–	–	r	r
150. *R. rotatoria*	–	–	c	c	ab	–	c	c
151. *R. tardigrada*	–	–	–	–	1	r	r	–
152. *Scaridium longicaudum*	–	–	–	–	1	–	–	1
153. *Sinantherina semibulata*	–	–	–	–	–	c	–	c
154. *S. socialis*	r	–	–	–	–	r	r	–
155. *S. spinosa*	–	–	c	–	–	1	–	–
156. *Synchaeta longipes*	–	–	–	–	–	c	–	–
157. *S. pectinata*	–	–	–	–	–	r	–	–
158. *Taphrocampa selenura*	–	–	–	–	–	1	r	r
159. *Testudinella ohlei*	–	–	–	–	–	–	r	r
160. *T. mucronata haueriensis*	–	–	r	r	r	r	c	r
161. *T. mucronata*	–	–	r	–	–	–	–	–
162. *T. reflexa*	–	–	–	–	r	–	r	r
163. *T. patina dendradena*	1	–	–	–	–	–	1	r
164. *T. patina patina*	c	–	c	r	c	r	c	ab
165. *Trichocerca braziliensis*	–	–	–	r	c	–	r	r
166. *T. bicristata*	–	–	–	–	c	1	r	–
167. *T. capucina*	–	–	–	–	–	c	–	–
168. *T. intermedia*	–	–	–	–	–	1	–	–
169. *T. rattus*	–	–	–	–	–	–	1	–
170. *T. similis similis*	–	–	r	–	r	r	c	–
171. *T. similis grandis*	–	–	–	–	–	r	r	–
172. *T. tenuior*	–	c	–	–	–	–	r	–
173. *T. tigris*	–	–	–	–	r	1	r	–
174. *T.* spec.	–	r	–	–	–	–	–	–
175. *Trichotria tetractis*	–	–	–	–	r	1	r	–
TOTAL	34	41	45	39	64	75	82	54

4.1. Interpretation of species list

A total of 175 species of rotifers were identified in the lago Camaleão samples despite the fact that some of the illoricate forms such as Bdelloidea, *Cephalodella*, *Collotheca* and *Notommata* could not be identified due to artifacts of fixation.

Compared to the earlier list given by KOSTE & ROBERTSON (1983), the present list is a little different. 24 species, which had previously been recorded did not re-occur. These are: *Floscularia ringens conifera, Habrotrocha angusticollis, Lecane arcuata, L. crepida, L. elachis, L. inopinata, L. obtusa, L. ohionensis, L. styrax, Lepadella benjamini, L. cristata, L. inermis, L. minoruoides, L. imbricata, Lindia truncata, Mytilina unguipes, Platyias leloupi latiscapularis, Ptygura linguata, Sinantherina ariprepes, Trichocerca mus, T. pusilla, T. voluta, Tripleuchlanis plicata* and *Trochosphaera aequatorialis.*

On the other hand, 33 species which previously had not been recorded were identified: *Anuraeopsis fissa, Ascomorpha saltans, Aspelta aper, Brachionus bidentatus, B. caudatus* f. *austrogenitus, B. voigti, B. urceolaris urceolaris, Cephalodella catellina catellina, C. friebei, C. sterea, Collotheca ornata cornuta, Conochilus natans, Dicranophorous forcipatus, Dissotrocha aculeata, Eosphora anthadis, Epiphanes brachionus spinosus, Floscularia decora, Gastropus hyptopus, Lecane furcata, L. lunaris crenata, L. ludwigi* f. *ercodes, L. melini, L. rudescui, Macrochaetus sericus, Monommata actices, Notommata glyphura, Philodina megalotrocha, Ploesoma lenticulare, Ptygura melicerta, Sinantherina semibullata, Testudinella ohlei, T. reflexa, Trichocerca capucina.* Among these there are new recordes for South America; *Aspelta aper, Eosphora anthadis* and *Monommata* cf. *actices,* and one new species, *Cephalodella friebei* (see Section 5 for description).

As was observed by KOSTE & ROBERTSON (1983), the number os species tends to increase with rising water levels and decrease with falling water levels. In 1982, however, the peak number of species was much lower than in 1981. The reasons and ecological implications for this is discussed in HARDY et al. (in press).

5. Remarkable species, new species and distribution records

5.1. ***Atrochus tentaculatus*** **WIERZEJSKI, 1893 (Fig. 1a - c)**

Atrochus tentaculatus was first found in a pond near Krakau in Poland and described by WIERZEJSKI. Since then *A. tentaculatus* has only been recorded twice from European bodies of water. However, in the December 2, 1981 sample from lago Camaleão, one specimen of this rare species was found after pressure was applied to its camouflaged detritus tube. The head was contracted (Fig. 1a) and the epidermis strongly annulated. The corona was only evident in the embryo (Fig. 1a: Em) which already presented well developed unci (Fig. 1b). Two subitaneous eggs (Fig. 1a: E) were located above the embryo. In the mastax of the female the trophi elements, rami and unci, were clearly visible. The cellular stomach, located near the mastax, is followed by a tube-shaped intestine (Fig. 1a: M & In). The trophi consists of two clasp-shaped rami, a reduced manubrium, a short fulcrum, and a symmetrical pair of unci each bearing a single tooth (Fig. 1b: U).(Compare with BEAUCHAMP 1912, Fig. 3 A - B). In apical view the unci tooth is a lancet-shaped rod (Fig. 1c).

The occurrence of *A. tentaculatus* in lago Camaleão is the first record of this rare species outside of Europe, from where it is known to inhabit the surface of detrital sediments. Measurements of the total length of living specimens vary from 1080 - 1420 μm (KOSTE 1978). Our contracted specimen measured 655 μm in length.

5.2. ***Brachionus bidentatus inermis*** **(ROUSSELET, 1906) (Fig. 2b)**

Synonym: *Brachionus furculatus inermis* ROUSSELET, 1906

This is the first record of *B. bidentatus inermis* in the Brazilian Amazon region. It was frequent in the December 1981 and October 1982 samples, occurring together with *B. bidentatus bidentatus* ANDERSON, 1889, the typical form (Fig. 2a), which was previously known only from Peru, Bolivia and Argentina (KOSTE & PAGGI 1982).

5.3. ***Cephalodella catellina catellina*** **(O. F. MÜLLER, 1786) (Fig. 3a - j)**

A few contracted specimens (Fig. 3a - c) were identified by trophi analysis from the October 1982 sample. Compared to live European specimens, *C. catellina* has slightly different toes. The European forms have toes which are curved downwards (Fig. 3d) while the lago Camaleão forms have toes which are curved upwards (Fig. 3a). The trophi, however, does not differ much from the figures given by HARRING & MYERS (1924): only the end of the manubria (Fig. 3f - g) seems to be less of a semicircle. Also, the asymmetrical alula of the right ramus seems to be longer. *C. catellina* was previously known only from Argentina, Paraguay, Peru and Panama. This is the first record for the Brazilian Amazon.

5.4. ***Cephalodella friebei*** **nov. spec. (Fig. 4a - g)**

Type material: 56 females from formalin samples collected by B. ROBERTSON in lago Camaleão, Ilha de Marchantaria, December 2, 1981.

Holotype: The holotype, 1 female, is deposited in the collection of the Instituto Nacional de Pesquisas da Amazônia, Manaus, on a permanent slide.

Paratypes: 3 females, on permanent slides, are lodged in the collection of W. KOSTE, D - 4570 Quakenbrück, Germany.

Description: All the specimens collected were contracted females. The body is very short and stout, and in crossection, trapezoidal. The lorica is very flexible, with the dorsal and the ventral plates separated by wide clefts (Fig. 4a: Su). The posterior portion of the ventral plate projects backwards like a tail. The neck is strongly set off from the body. The small, short foot is positioned ventrally. The toes are also short, and blade-shaped in both dorsal and ventral views.

The oval salivary glands are located on the ventral side of the mastax (Fig. 4b: Spdr). The gastric glands are unusually large (Fig. 4a: Mdr). The cellular stomach (Fig. 4a: Ma) is distinctly separated from the intestine. The anus lies above the foot segment, under the posterior projection of the ventral plate. Pearl-shaped food pellets were observed in the digestive tract. The huge vitellarium seems to have many nuclei (32?) (Fig. 4a - c: Vi). The foot glands (Fig. 4c: Fdr) are short and have indistinct reservoirs. The lateral and dorsal antennae have short sensory hairs. The eyespot was not identified.

The mastax is very large. The trophi is asymmetrical (Fig. 4d - g) and resembles that of *C. catellina* (O. F. MÜLLER, 1786) (Fig. 3e). The fulcrum (Fig. 4d - f) is long and slightly expanded at the posterior end. The manubria differ from each other in form and size (Fig. 4d - g) and have sickle-shaped ends (Fig. 4d: Kr). The rami (Fig. 4d: Ra) have no alula, but near the apex are provided with comb-like, denticulate lamellae (Fig. 4d: Z). The unci have typically a single tooth (Fig. 4d: Un).

Measurements: Lorica length, including toes = 110 - 135 µm, toes = 19 - 20 µm, trophi length = 33 µm (manubria = 20 - 25 µm, fulcrum = 20 µm, unci = 10 µm).

The new species resembles other *Cephalodella* species such as *C. xenica* HARRING & MYERS, 1924, *C. jakubski* WIESZNEIWSKI, 1953, *C. eupoda* HARRING & MYERS, 1924, *C. crassipes* (LORD 1903) and *C. catellina* (O. F. MÜLLER 1786). These taxa are not related, however, and *C. friebei* differs from them in its distinct lorica, the shape and construction of the trophi and the very large vitellarium.

Cephalodella friebei n. sp. was relatively common and occurred with rotifers such as *Brachionus calyciflorus, B. bidentatus, B. patulus, Rotaria neptunia* and *Lecane papuana*, indicators of biogenically polluted waters.

Etymology: The new species is named after Dr. Bernd Friebe from the AG Tropenökologie, Max-Planck-Institut für Limnologie, in gratitude for a continueing good collaboration.

5.5. ***Eosphora anthadis*** **HARRING & MYERS, 1922 (Fig. 5a - d)**

This rare species was identified by trophi analysis of contracted specimens collected in May and October, 1982. This is the first record of *E. anthadis* in South America. Previously it was known only from Europe, North America, India, New Zealand and Australia.

The length of living animals has been reported to lie between 350 - 400 µm (HARRING & MYERS; DONNER 1975). Our contracted specimens measured between 180 - 216 µm. The trophi is very small (33 - 35 µm) (Fig. 5c, d) and slightly different from the virgate type. The sphaerical rami are characteristic, and have a interior denticulate membrane which probably has a pumping function. The unci (Fig. 5c, f) have only a single, slightly curved tooth. The manubria have a nearly triangular lamella on the anterior end (Fig. 5c, e: Man). The end of the fulcrum (Fig. 5c, d: Ful) has a rough surface for attachment of the mastax muscles (Fig. 5b: Mx). The gastric glands are very big (Fig. 5a, b: Mdr) as are the foot glands. The salivary glands were not observed. The foot is wrinkled and has paired toes with separate claws (Fig. 5b: Z).

5.6. ***Epiphanes brachionus spinosus*** **(ROUSSELET 1901)**

This species is new for the Amazon region. Only a single record was previously known for South America: MURRAY's (1913) register of *E. brachionus spinosus* occurring in the Botanical garden of Rio de Janeiro.

5.7. ***Filinia saltator*** **(GOSSE 1886) n. nom. (Fig. 6a - f)**

Synonym: *Pedetes saltator* GOSSE, 1886: *F. longiseta* var. *acaudata* HAUER, 1953: *F. longiseta* f. *saltator* (GOSSE) after POURRIOT 1975: *F. longiseta* var. *saltator* (GOSSE 1886) after KOSTE 1980.

F. saltator was present most of the time with the variety of forms shown in fig. 6a - e. Only in the December 1981 samples was the population homogenous with all specimens lacking the caudal bristle (Fig. 6b). Different from *F. longiseta,* the caudal bristle of *F. saltator*, when present, is never longer than the body (Fig. 7a). The trophi (Fig. 6f) has 21 teeth as in *F. longiseta* (Fig. 7b), but it is much smaller (28 - 30 µm long versus 36 - 40 µm long in *F. longiseta*).

Unfortunatly the description of *Pedetes saltator* by GOSSE is dubious. According to HARRING (1913: 48) WESENBERG-LUND pointed out that the taxon was probably a *F. longiseta* with the posterior spine broken off. Thus, while the type was found in England, the species was never again found in Europe. HAUER (1953), who first found *F. saltator* in the Neotropis (NE-Brasil), called it *F. longiseta* var. *acaudata.*

Besides the morphological differences already mentioned, *F. saltator* also tends to occur only in the warm waters of Central and South America (KOSTE & PAGGI 1982). Thus, it is very probable that *F. saltator* is a valid species and not only a variety or form of *F. longiseta.*

Measurements	*F. saltator* n. nom.	*F. longiseta longiseta*
Body length	100 - 135 µm	130 - 250 µm
Length of caudal bristle	0 - 100 µm	125 - 300 µm
Length of lateral bristle	240 - 320 µm	320 - 590 µm
Trophi length	28 - 30 µm	36 - 43 µm

5.8. ***Lecane rudescui*** **HAUER, 1965 (Fig. 8)**

This is the second record of *L. reduscui* in the Amazon. It was first recorded by HAUER from a sample collected by GESSNER in a black water lake near Manaus. Only four specimens, collected during the high water period (26. 06. 82) were observed in our samples. The measurements of these animals differ slightly from HAUER's measurements:

Measurements	HAUER 1965	Camaleão specimens
Total length	176 - 181 µm	194 - 196 µm
Dorsal lorica length	117 - 122 µm	125 - 130 µm
Ventral lorica length	112 - 125 µm	116 µm
Dorsal lorica width	87 µm	86 - 87 µm
Ventral lorica width	87 - 89 µm	86 µm
Second foot segment	23 µm	18 - 19 µm
Head aperture	51 µm	50 µm
Toe length	41 - 43 µm	45 - 48 µm

5.9. ***Macrochaetus sericus*** **(THORPE 1893) and** ***M. collinsi*** **(GOSSE 1867) (Fig. 9a - b)**

Besides the well known *M. collinsi collinsi* (GOSSE 1867) which occurred in our samples (Fig. 9a), we also found specimens with a much less distinct anal segment, particularly when seen in ventral view (Fig. 9b). The absence of this segment is one of the taxonomical characteristics of *M. sericus* (THORPE 1893). (See HAUER 1965b, Fig. 27; GILLARD 1967; KOSTE 1972, pl. 41: 1; KOSTE 1978, pl. 48: 4a - b, pl. 49: 2). In dorsal view, however, both of our taxa have the same number of spines: 4 on the anterior and 4 on the posterior portion of the lorica. Animals with contracted ventral plates are very difficult to identify to species level and many authors have confused *M. sericus* with *M. collinsi.* There still are problems with these species despite the fact that WULFERT (1964) published a study of the genus.

M. collinsi braziliensis (MURRAY 1913), with spines on the second foot segment, was not found in our samples.

6. Summary

175 species of rotifers were identified in 31 plankton samples collected in Lago Camaleão, a varzea lake situated on the Ilha de Marchantaria in the Solimões/Amazonas River system.

24 species which were previously recorded by KOSTE & ROBERTSON (1983) did not re-occur, but were "replaced" by 30 others. Among these new records for the Amazon region include: *Atrochus tentaculatus* WIERZEJSKI, 1893, *Brachionus bidentatus inermis* ANDERSON, 1889, *Cephalodella catellina* (O. F. MÜLLER 1786), *Eosphora anthadis* HARRING & MYERS, 1922, and *Monommata* cf. *actices* MYERS, 1930. A new species, *Cephalodella friebei*, is described, and taxonomical revisions are proposed for *Filinia saltator* (GOSSE 1886) and *Macrochaetus sericus* (THORPE 1893).

The samples span an entire flood cycle. During the low water period only 34 species were found. At peak flood and during the falling water period 64 - 82 taxa were identified.

7. Resumo

175 espécies de rotíferos foram identificados em 31 amostras coletadas no lago Camaleão que se situa na Ilha de Marchantaria, na região de várzea do sistema Solimões/Amazonas.

24 espécies que tinham sido encontradas anteriormente (KOSTE & ROBERTSON 1983) não forão registradas mas "substituidas" por outras 30. Entre estas, os novos registros para a região Amazonica são: *Atrochus tentaculatus* WIERZEJSKI, 1893, *Brachionus bidentatus inermis* ANDERSON, 1889, *Cephalodella catellina catellina* (O. F. MÜLLER 1786), *Eosphora anthadis* HARRING & MYERS, 1922, e *Monommata* cf. *actices* MYERS, 1930. Uma espécie nova é descrita, *Cephalodella friebei*, e revisões taxonomicas são propostas para *Filinia saltator* (GOSSE 1886) e *Macrochaetus sericus* (THORPE 1893).

As amostras abrangem um ciclo completo de enchente e vazante. Durante a seca apenas 34 espécies foram encontradas. Na cheia e no início da vazante 64 - 82 espécies foram identificadas.

8. Acknowledgments

This study is part of a project being undertaken under the auspices of the bilateral cooperation between the Instituto Nacional de Pesquisas da Amazônia (INPA) and the Max-Planck-Institute for Limnology.

The authors would like to thank particular Dr. W. JUNK for providing the opportunity for Dr. W. KOSTE and M. Sc. E. R. HARDY to work together in Plön, West Germany.

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Accepted for publication in August 1984

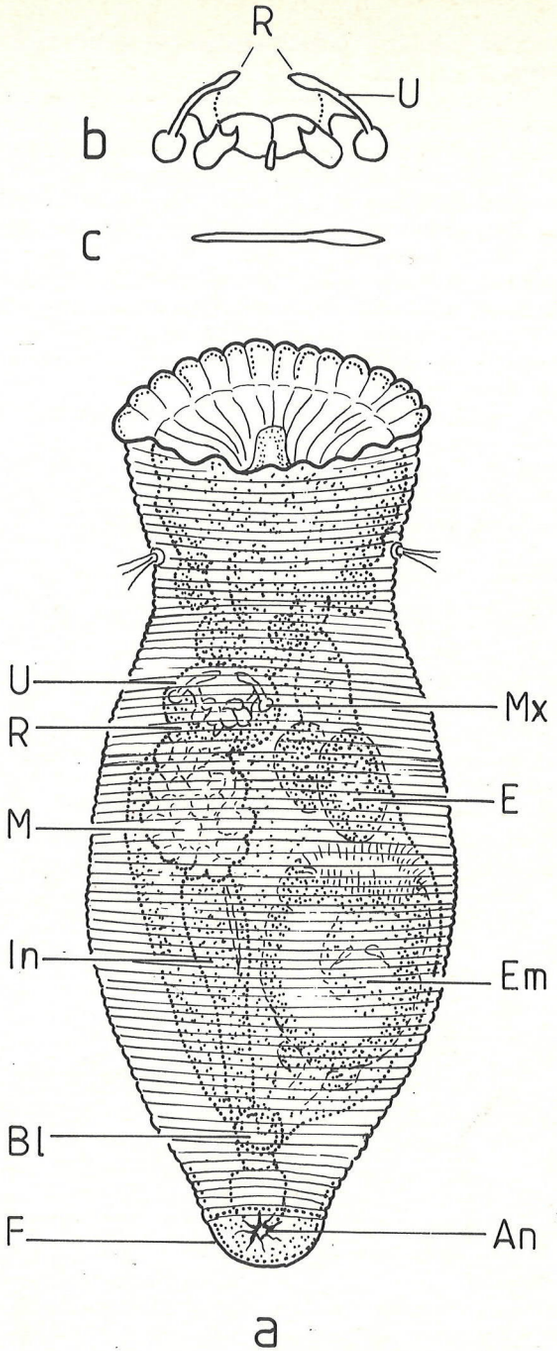


Fig. 1:
Atrochus tentaculatus WIERZEJSKI, 1893
a) female with contracted corona, ventral view (An = anus, Bl = bladder, E = subitaneous egg, Em = embryo, In = intestine, M = stomach, Mx = mastax, F = foot, R = ramus of trophi, U = unci).
b) Dorsal view of trophi after BEAUCHAMP 1912 (R = rami, U = uncus). **c)** Apical view of uncus.

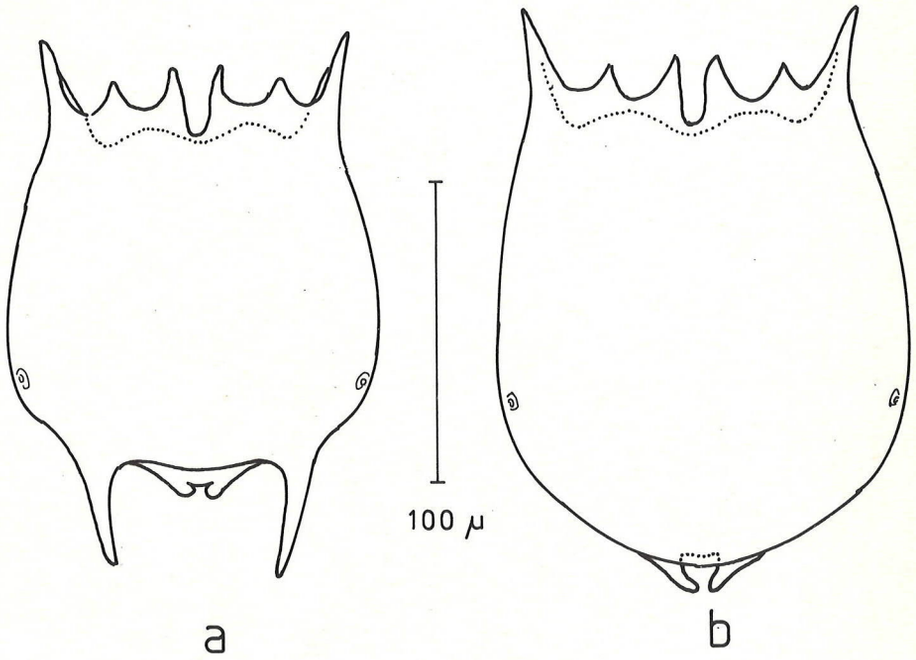


Fig. 2:
Brachionus bidentatus ANDERSON, 1889
a) Dorsal lorica, total length 187 µm, *B. bidentatus* ANDERSON.
b) Dorsal lorica, total length 198 µm, *B. bidentatus inermis* (ROUSSELET 1906).

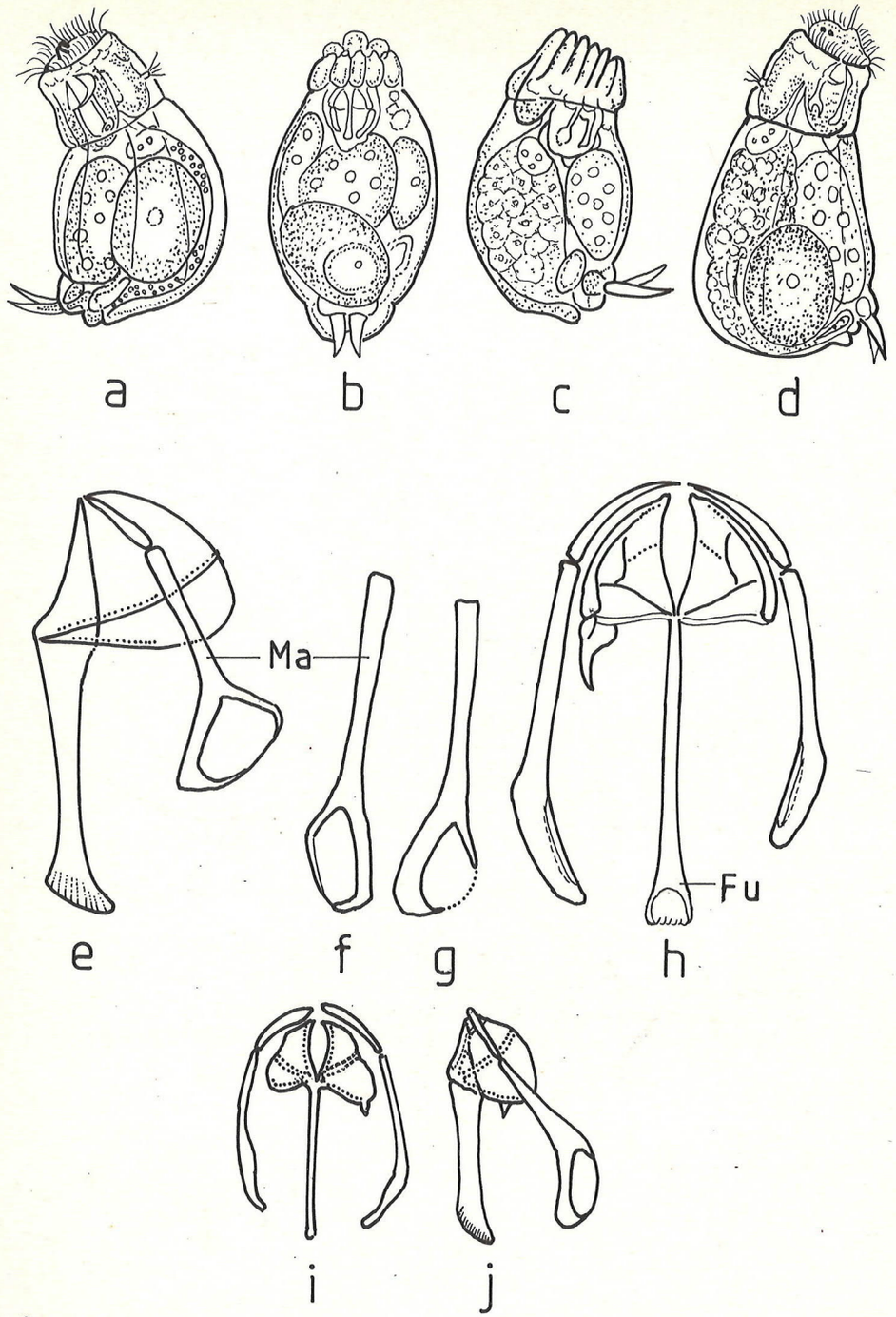


Fig. 3:
Cephalodella catellina catellina (O. F. MÜLLER 1786)
a - c) Contracted females, total length 105 μm, length of toes 18 μm. **d)** ***C. catellina,*** lateral view, from Dümmer, NW Germany, total length 110 μm. **e)** Trophi, lateral view (Ma = manubrium). **f - g)** different manubria. **h)** Trophi, apical view (Fu = fulcrum), total length 28 μm, manubrium 10 μm. **i - j)** Trophi, after HARRING & MYERS 1924.

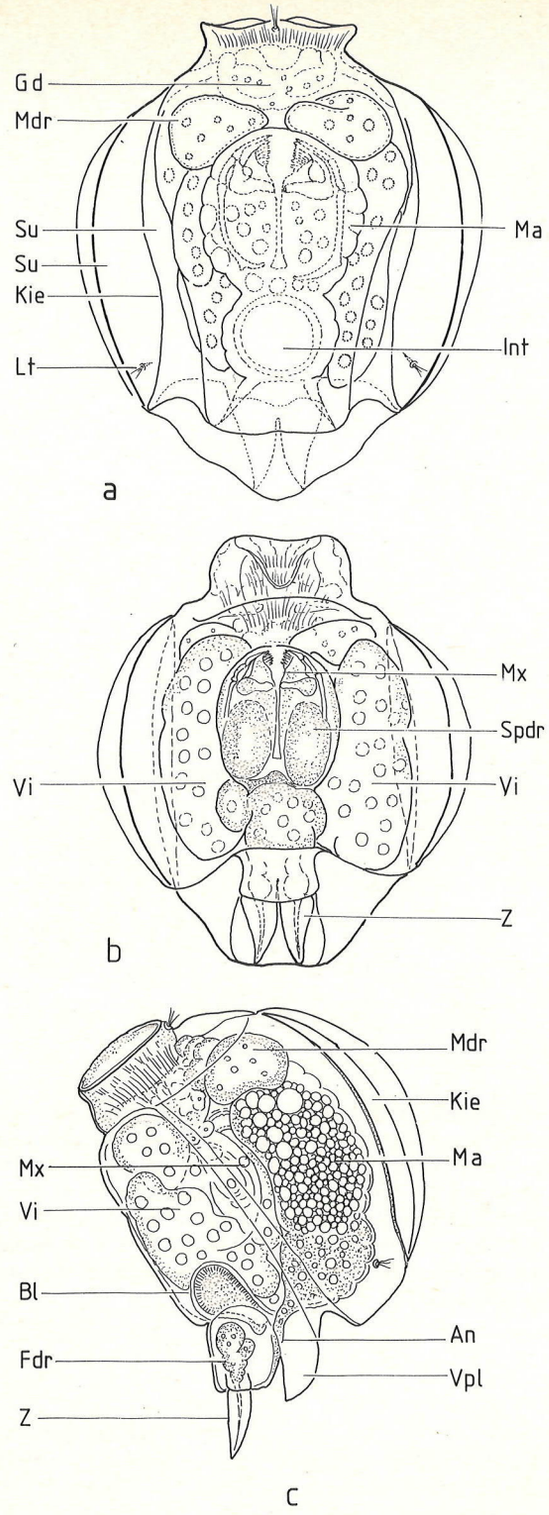
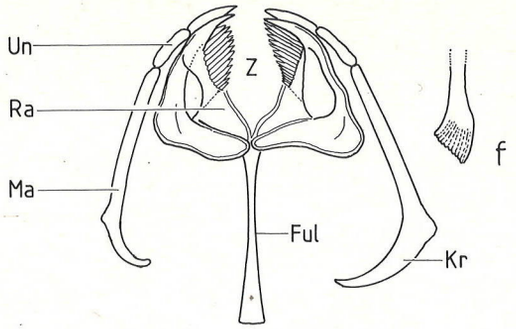


Fig. 4a, b, c:



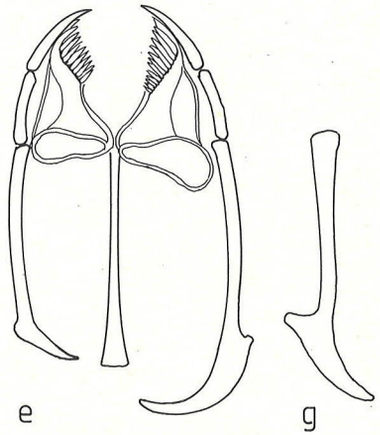
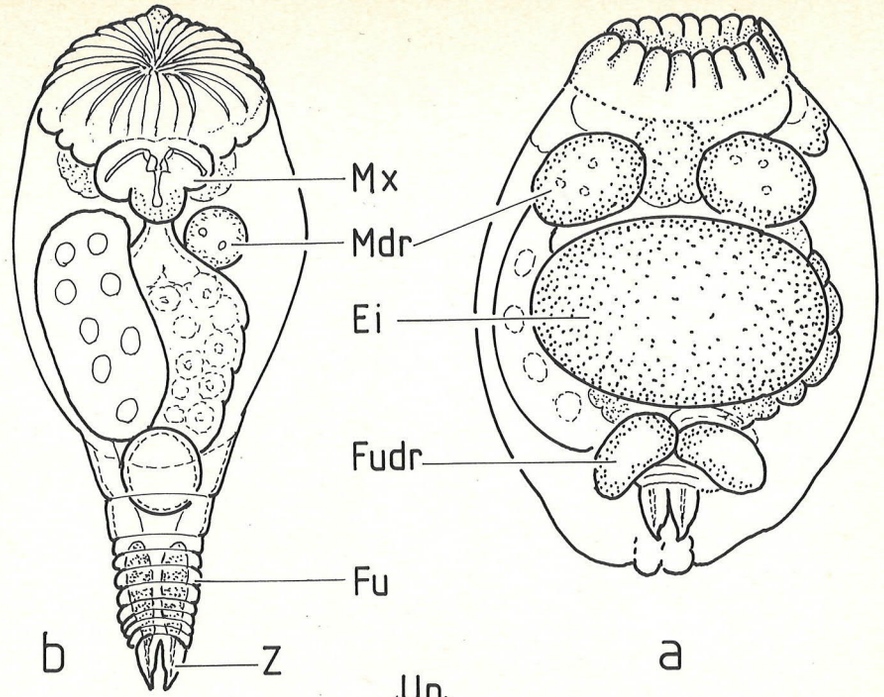


Fig. 4:
Cephalodella friebei n. sp.
a) Dorsal view of contracted specimen, total length = 120 µm, (Gd = brain, Int = intestine, Kie = border of dorsal lorica, Lt = lateral antennae, Ma = stomach, Mdr = gastric glands, Su = sulcus). **b)** Ventral view, total length = 110 µm, (Mx = mastax, Spdr = salivary glands, Vi = vitellarium, Z = toes). **c)** Lateral view, total length = 120 µm, (An = anus, Bl = bladder, Fdr = foot glands, Kie = border of lorica plate, Ma = stomach, Mx = mastax, Mdr = gastric glands, Vpl = projection of ventral plate, Z = toes). **d - e)** Trophi, total length = 33 µm, (Ful = fulcrum, Kr = crooked end of manubrium, Ma = manubrium, Ra = ramus, Un = uncus, Z = denticulate lamellae of rami). **f)** Lateral view of the end of the fulcrum. **g)** Detail of the end of the right side of the manubrium.



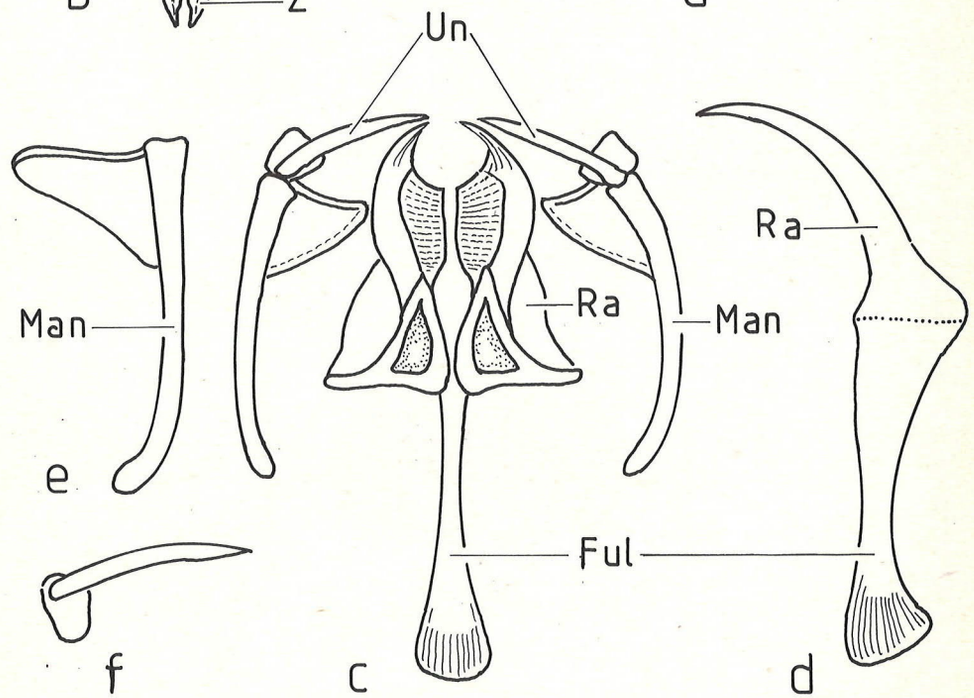


Fig. 5:
Eosphora anthadis HARRING & MYERS, 1922
a) Contracted female (Ei = subitaneous egg, Fudr = footglands, Mdr = gastric glands). **b)** Female with contracted head part (Mx = mastax, Fu = foot, Z = toes). **c)** Apical view of trophi (Ful = fulcrum, Ra = ramus, Un = unci). **d)** Incus (fulcrum and rami) lateral view. **e)** Manubrium, lateral view. **f)** Uncus.

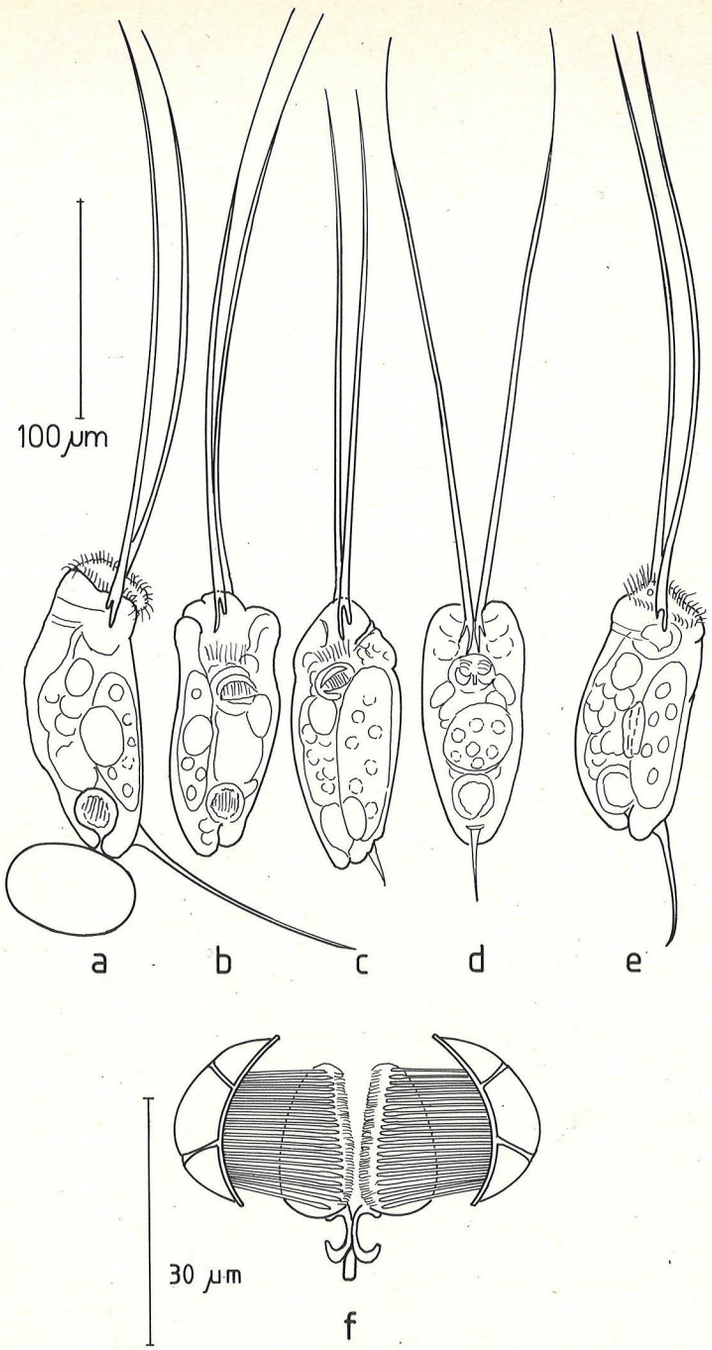


Fig. 6:
Filinia saltator (GOSSE 1886)
a) Lateral view of female with subitaneous egg (caudal spine = 100 µm, lateral spine = 248 µm, body length = 110 µm). **b)** Lateral view of specimens without caudal spine. **c - e)** Specimens with rudimentary caudal spine. **f)** Trophi (total length = 28 µm).

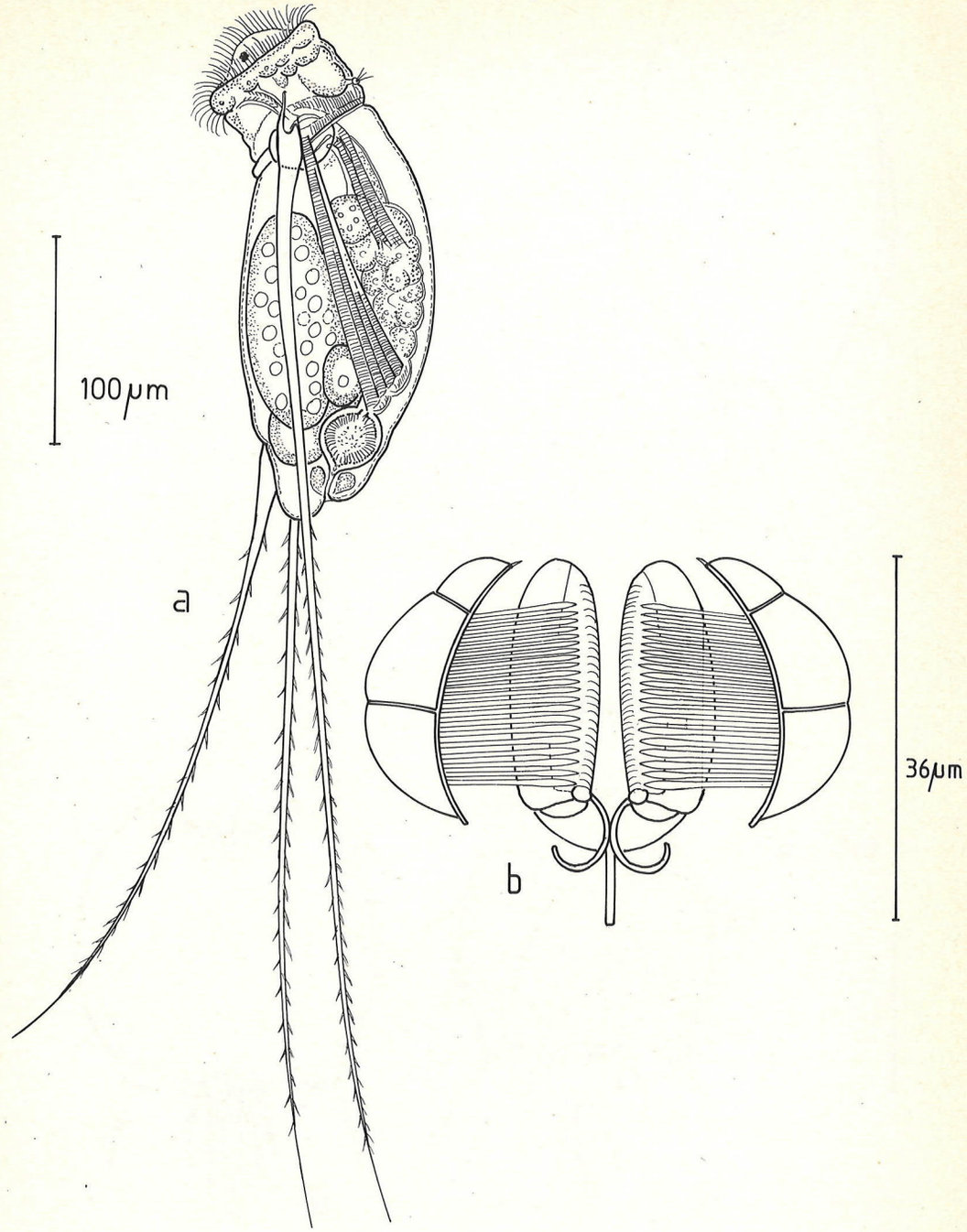


Fig. 7:
Filinia longiseta longiseta (EHRENBERG 1834)
a) Female, lateral view (caudal bristle = 324 µm, lateral bristle = 458 µm, body length = 200 µm). **b)** Apical view of trophi, total length = 36 µm.

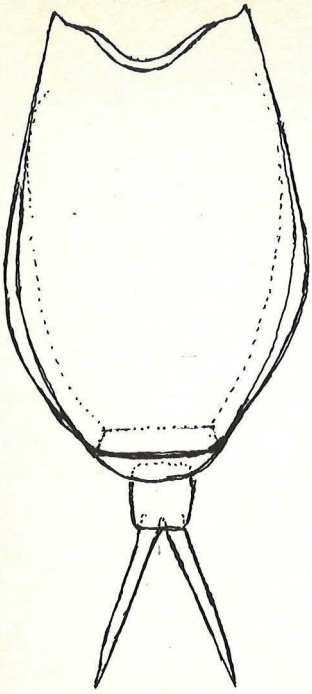


Fig. 8:
Lecane rudescui HAUER, 1965
Dorsal view, total length = 187 µm.

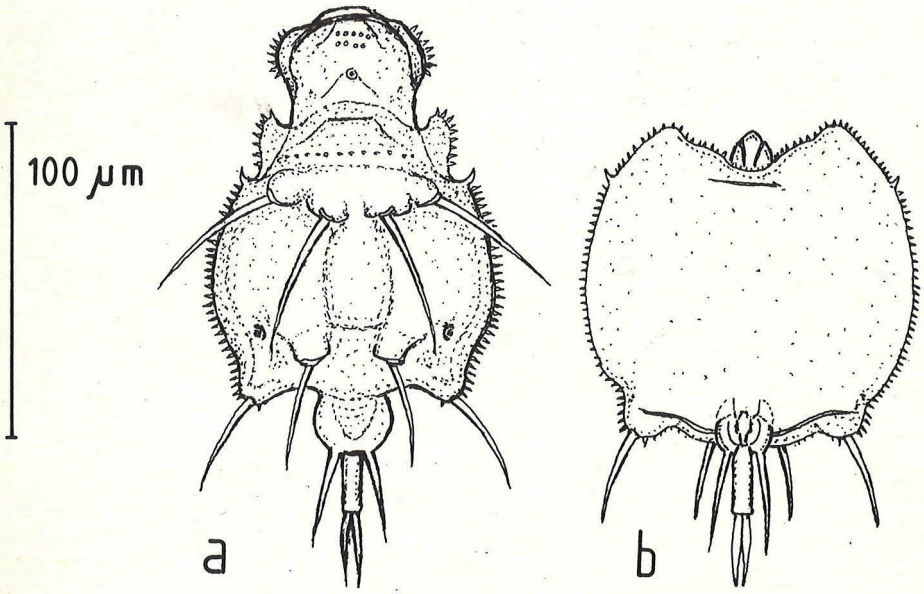


Fig. 9:
Macrochaetus collinsi collinsi (GOSSE 1867)
a) Dorsal view, with stretched head and footsegments, total length = 210 µm.
b) *Macrochaetus* cf. *sericus* (THORPE 1893), ventral view, contracted, total length = 142 µm.